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Biotechnology Notes

Volume 6 • Number 9

U.S. Department of Agriculture

November 1993

Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

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PUBLIC INVITED TO ABRAC MEETING DECEMBER 16-17

The public is invited to attend the next meeting of USDA'S Agricultural Biotechnology Research Advisory Committee (ABRAC), December 16-17, at the Holiday Inn Arlington, 4610 North Fairfax Drive, Arlington, VA 22203. Agenda items will include agricultural biotechnology research priorities, the biotechnology aspects of standards for organically grown foods, and performance standards for research with genetically modified fish and shellfish.

The meeting begins at 9 a.m. both days and adjourns at 5 p.m. on December 16 and at about 3 p.m. on December 17. For more details, please call the Office of Agricultural Biotechnology (OAB) at 703-235-4419; Fax: 703-235-4429.

LEARN ALL ABOUT THE BT TOMATO ON NOVEMBER 10

What's a BT tomato you ask? It's one where a gene from a soil microorganism called *Bacillus thuringiensis* has been inserted into a tomato's chromosome using a technique called genetic engineering. Why do that? Because this gene triggers production of a toxin that is fatal to caterpillars who feed on the tomatoes. BT tomatoes then don't have to be sprayed with pesticides to kill the caterpillar.

Interest in the BT tomato is not limited to U.S. researchers. On November 10, Harry A. Kuiper of the State Institute for Quality Control of Agricultural Products in The Netherlands will present a seminar at USDA on the food safety evaluation of the BT tomato. It will be held at 10 a.m. in Room 3109, South Building. For more details about attending the seminar, please call the OAB at 703-235-4419.

WHO'S DOING WHAT IN TRANSGENIC FISH RESEARCH

USDA's National Agricultural Library (NAL) now has available a bibliography on research concerning transgenic fish. "Transgenic Fish Research: A Bibliography," was prepared by Virginia Stone and the late Robert Warmbrodt. It lists 125 projects conducted on freshwater fish. The bibliography includes sections on gene expression and sequencing, immunology and diseases, breeding and production, and field release studies. To obtain a copy, send a self-addressed label with your request to: Biotechnology Information Center, NAL, 4th Floor, 10301 Baltimore Blvd., Beltsville, MD 20705-2351.

EXECUTIVE TRAINING DETAILEE JOINS OAB

Charles G. Lewis, nutritionist at USDA's Agricultural Research Service (ARS), has joined the OAB for a 90-day developmental training assignment. Lewis will work with the Agricultural Working Group of the White House Science Office's Biotechnology Research Subcommittee and coordinate the preparation of a major document related to agricultural biotechnology research and funding.

NEWS AROUND THE NATION (AND THE WORLD)

CHICAGO CONFERENCE ON SCIENTIFIC LITERACY

About 150 educators and social scientists gathered in Chicago, IL October 24-27 for the 1993 International Conference on the Public Understanding of Science and Technology. Several themes ran through the meeting, including the emphasis educators placed on teaching science in the overall context of life experiences rather than as a series of lab experiments. "Show the interplay between basic science, applied science and technology," advised Nobel Prize winner Leon Lederman in his opening remarks. "Learn the history of science," he continued, "including the revolutions in science that have had an impact on society."

Speaking on what citizens should know about biotechnology, John Durant of the London Science Museum made the point that there is nothing magical about biotechnology. He said scientists should keep in mind that the field of genetics has a troubled past and leaves a bad taste in people's mouths. He reminded scientists that according to a recent survey, the British place more faith in the opinions of environmental groups than they do in those of university experts. He offered scientists these three final thoughts: take people's concerns seriously, produce what people really want, and "don't mess up."

Twenty-two nations were represented at the conference, which was sponsored by the Chicago Academy of Sciences and the International Center for the Advancement of Scientific Literacy.

BIOTECH CENTERS FORGE NETWORK

Representatives of 11 U.S. biotechnology centers met recently to improve their strategic cooperation in matters of public policy and education. Key outcomes of the conference included activating a network to share information on policy and research issues. Center directors will use the network to alert their colleagues of pending policy proposals, and of opportunities to comment on proposed state or Federal regulations.

Participants also formed a working group to connect education specialists at biotechnology centers. Jeffrey Tate of the University of Minnesota, chair of the Biotechnology Industry Organization Council of Biotechnology Centers, will spearhead the effort to establish a nationwide e-mail network connecting all centers. A followup meeting is now being planned. For more details, please call Tom Zinnen at 608-265-2420.

UPDATE ON PRESIDENTIAL BIOTECH INITIATIVE

During the last two Federal budget cycles, a comprehensive inventory of all Federal biotechnology research was compiled as part of a presidential biotechnology budget initiative. The enormity of the task left little time for critical planning and coordination activities by the Biotechnology Research Subcommittee (BRS).

In Fiscal Year 1995, the budgetary inventory will be curtailed, and the BRS will focus on research opportunities, planning, and priorities in five areas: agriculture, environment, manufacturing/bioprocessing/energy, marine biotechnology, and technology transfer. In addition to technical issues, the areas will focus on societal and industrial needs and the role of the Federal government in biotechnology research.

The BRS reports to the Federal Coordinating Council for Science, Engineering, and Technology. The Chair of BRS is Lura Powell of the National Institute of Standards and Technology.

EVERYTHING YOU (THE CONSUMER) WANTED TO KNOW ABOUT BIOTECH

If terms like genetic engineering and polymerase chain reaction leave you glassy-eyed, then now may be the time to order a series of plainly written bulletins on biotechnology prepared by Iowa State University (ISU). Each provides information on products and techniques for the non-scientist. The purpose of the bulletins is to provide objective information so consumers can make well-informed decisions.

Each is written by an ISU faculty or staff member and underwent regional and national review by the Extension Service. Topics in the series include the principles of biotechnology, careers, bovine somatotropin, porcine somatotropin, plant disease

diagnostics, DNA fingerprinting in humans and in agriculture, genetically engineered fruits and vegetables, insect resistant crops, and pharmaceutical production in transgenic animals. To order one or more, please call 515-294-5247 or write to Extension Distribution Center, 119 Printing and Publications Bldg., Iowa State University, Ames, IA 50011.

U.S.-EC TASK FORCE MAKES RECOMMENDATIONS

The U.S.-Commission of the European Community (EC) Task Force on Biotechnology Research, established in September 1990, convened for the third time at the National Science Foundation in Washington, DC, October 18-19. A few of its recommendations included:

1. Encouraging linkages between EC and U.S. research projects on genetic resources, in particular those related to molecular genetic screening, molecular diversity, and integration of molecular data and taxonomic description for plant species.
2. Establishing a small U.S.-EC working group to inventory and identify the issues regarding databases which underpin biotechnology research.
3. Establishing a working group for possible cooperation in mapping the human brain and its functions within the context of current research in neuroscience/mental disorders.
4. Establishing a U.S.-EC mechanism to facilitate the exchange of information about biotechnology communication and education activities.

To learn more about the Task Force, call Martha Steinbock, USDA/OAB, at 510-987-0069.

CORRECTION

An article in the July issue of **Biotechnology Notes** about a meeting that took place in Research Triangle Park, NC called "Symbol, Substance, and Science: The Societal Issues of Food Biotechnology" incorrectly reported the views of Eric Flamm of the Food and Drug Administration. The article should have stated that Flamm believes that, unlike traditional breeding, molecular techniques insert DNA segments semi-randomly into the chromosome, thereby potentially giving rise to secondary effects due to insertional mutagenesis. He also said there is a variety of causes for secondary effects, that some breeding techniques are more prone to secondary effects than others, and that FDA did not consider secondary effects to be an issue unique to plants developed with molecular techniques.

BIOTECHNOLOGY AND ANIMALS

The fourth annual New England Animal Biotechnology Symposium will be held at the University of Connecticut in Storrs, April 20-21, 1994. Topics will include molecular and cellular development of adipose tissue, molecular and cellular aspects of lipid and protein metabolism; the role of biotechnology in the university, and a roundtable discussion on the labeling of bioengineered products. For more details call Steven Zinn at 203-486-0861; Fax: 203-486-4375. Call 203-486-1072 to receive a program, which will be available in December, or for information about submitting an abstract, or to find out about applying for scholarships so graduate students may attend the conference.

SCIENCE AND THE MEDIA

Dublin College University is where a one-day workshop will take place on science and communications, November 24. It is being organized by the Irish Science Journalists' Association in conjunction with the School of Communications at Dublin College University. Presenters include Professor Heinz Wolff, who produced popular science programs on BBC television; John Durant of the London Science Museum; Mike Cooley, an international technology consultant; Emer Colleran, who is on the European Commission's science and society think tank; and Peter Feeney, a current affairs editor. For further details, call Dublin College University at 353-1-704-5000.

IN CASE YOU WEREN'T THERE

■ **Veterinary biologics and the plant genome program** were both covered in papers presented this year at Biotechnica '93 in Hannover, Germany. Animal and Plant Health Inspection Service (APHIS) Chief Staff Veterinarian Cyril Gay described the risk analysis model that APHIS uses to assess the safety of live recombinant vaccines. He said APHIS has conducted 20 risk assessments to date using this model. The model is a multi-factorial approach to risk assessment that takes into consideration not only animals but also public health and the environment. Gay said APHIS is currently reviewing several applications for the use of recombinant vectors as vaccines, including one for a rabies vaccine. For more details, please call Cyril Gay at 301-436-8674.

Douglas Bigwood, Database Manager at USDA's NAL, said the plant genome program is a cooperative venture between NAL, the Cooperative State Research Service (CSRS), the Agricultural Research Service, and the Forest Service. All of the plant genome data generated by these agencies are fed into a central database at NAL. He said the genomic information covers a wide range of plants that include pine trees, rice, cotton,

sorghum, and solanaceous species (tomatoes, potatoes, eggplant, and peppers). Bigwood said the database will soon be available to the public via a Sybase system, a gopher link, and a world-wide web server. To learn more about the program, please call Douglas Bigwood at 301-504-6875.

■ **Labeling bioengineered foods** was a hot topic at the October 15 meeting of Public Voice in Washington, DC. Jean Halloran, Director of the Consumer's Policy Institute said all genetically engineered foods should be labeled. Robert Serenbetz, President of DNA Plant Technology said, on the other hand, labeling should only be required if consumer safety or nutrition would be affected. Greg Simon, Chief Domestic Policy Advisor to Vice President Gore said the Food and Drug Administration is now evaluating "appropriate" labeling.

Turning to pesticidal substances produced in plants, Simon said the Environmental Protection Agency is now drafting a proposed policy statement for public comment that clarifies the regulatory process under the Federal Food Drug and Cosmetic Act and the Federal Insecticide, Fungicide, and Rodenticide Act.

NEW PUBLICATIONS

■ "TechWatch" is a new publication prepared by USDA's Food Safety and Inspection Service, Technology Transfer and Coordination Staff. To receive a complimentary copy, call Pat Basu at 202-720-8623; Fax: 202-720-0582.

■ "BRIDGE Programme: Biotechnology of Lactic Acid Bacteria." A brochure prepared by the Commission of the European Communities, DG XII. 1993. To receive a copy call Charles Daly, National Food Biotechnology Centre, University College, Cork, Ireland at 353-21-273803; Fax: 353-21-276318.

■ Minutes of USDA's ABRAC meeting which took place June 29-30 in Research Triangle Park, NC. To receive a free copy, call 703-235-4419; Fax: 703-235-4429.

■ "Biotechnology and Genetic Resources." A workshop report of the U.S.-EC Task Force on Biotechnology Research that took place October 21-22, 1992 in Airlie, VA. To receive a copy call 703-235-4419; Fax: 703-235-4429.

■ "Report of the Committee on the Ethics of Genetic Modification and Food Use." Prepared by Great Britain's Ministry of Agriculture, Fisheries and Food. 1993. For more information, please write to Tim Davis, Ministry of Agriculture, Fisheries and Food, Ergon

House, C/O Nobel House, 17 Smith Square, London SW1P 3JR, England; or call 071-238-6377; Fax: 071-238-6382.

■ *Directory of Biotechnology in France.* Includes information about companies, associations, government organizations, and research and information centers. For information about ordering a copy, call 33-1-4707-1122; Fax: 33-1-4336-8093.

■ "Working with DNA and Bacteria in Precollege Science Classrooms," by Toby Horn. Edited by Kathy Frame. Published by the National Association of Biology Teachers (NABT), 1993. For information about ordering this publication, please call NABT at 703-471-1134.

■ Scientific Annual Report 1992. Edited by J. H. Walsdorff. Published by GBF--National Research Center for Biotechnology Ltd., Mascheroder Weg 1, D-38124 Braunschweig, Germany; Tel: 05-31-6181-0; Fax: 49-531-6181-515.

UPCOMING MEETINGS

Nov. 12-14: "Eating and Health: What Do We Know?" Washington, DC. A workshop sponsored by the Center for Food and Nutrition Policy and The Ceres Forum, Georgetown University, and AAAS. Includes a session on food and biotechnology and food safety. For details call 202-687-6349; Fax: 202-687-7723.

Nov. 17: "Food Biotechnology: Focus on Consumer Choices." Chicago, IL. Sponsored by the International Food Information Council. For details write to IFIC, Suite 430, 1100 Connecticut Ave., N.W. Washington, DC 20036.

Nov. 18-19: Biotechnology: Business, Law, and Regulation. San Francisco, CA. Sponsored by the American Law Institute and the American Bar Association. For details send a fax to 215-243-1664.

Dec. 9-10: "Herbicide Resistance Workshop." Edmonton, Alberta, Canada. Sponsored by Environmental Centre, Alberta Agriculture, Food and Rural Development, and the Crop Protection Institute.

Dec. 16-17: Meeting of USDA's Agricultural Biotechnology Research Advisory Committee. Arlington, VA. For details call OAB at 703-235-4419; Fax: 703-235-4429.

Jan. 24-27: International Plant Genome II Conference. San Diego, CA. For details call 212-643-1750.

RISK ASSESSMENT GRANTS AWARDED

The USDA's Biotechnology Risk Assessment Research Grants Program was established in 1990 to address concerns about introducing biotechnology products into the environment. The Program is also intended to help regulators develop policies that are based on science. It is administered by CSRS and ARS.

The invitation to submit proposals was made April 14, 1993 with a deadline of June 14. Sixty-four risk assessment proposals were received and peer reviewed. The following 12 awards were made totaling \$1,693,360. For more information about these awards, please call Ann Lichens-Park, CSRS, at 202-401-4892.

Iowa State University: *"Genetic exchange between Bacillus thuringiensis and other microbes in soil."*

Idaho Agricultural Experiment Station: *"Gene transfer between transgenic canola and related weed species."*

USDA-Agricultural Research Service-Midwest Area: *"Crossability relationships between potato varieties and related wild species."*

University of California at Davis: *"Risk assessment: Recombination events between virus genomes and genome segments in plants."*

Auburn University: *"Risk assessment of plant-associated bacterium genetically engineered with lux genes."*

University of South Carolina: *"Identification of plant viral synergism genes."*

Maryland Biotechnology Institute: *"Proposal to conduct annual risk assessment symposia."*

Purdue Research Foundation: *"Adaptability and genetic stability of transgenic fish in artificial environments with implications to native habitats."*

Indiana University and Ohio State University: *"Gene flow between domesticated and wild sunflowers."*

USDA-ARS-Northern Plains Area: *"Risk of transgenic alfalfa dissemination during seed production."*

University of Idaho: *"Model for dispersal and epiphytic survival of bacteria applied to crop foliage."*

University of Arkansas: *"Sexual cycle and potential for gene flow in fungal biological control agents."*

Biotechnology Notes is prepared by Marti Asner, USDA/OAB public affairs specialist. Comments are always appreciated and may be sent to USDA/OAB, Room 1001, RP-E, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Telephone: 703-235-4419; Fax: 703-235-4429; Internet: masner@csrs.esusda.gov.